--28. (NEW) A method for controlling gene expression in eukaryots, comprising introducing prokaryotic beta recombinase and its specific target sequences in the eukaryots.--

--29. (NEW) A method for manipulating plant genomes in the generation of transgenic plants, comprising introducing prokaryotic beta recombinase and its specific target sequences in the plant genomes.--

--30. (NEW) A method for manipulating pathogenic and Gram positive bacteria, comprising introducing prokaryotic beta recombinase and its specific target sequences in the pathogenic and Gram positive bacteria.--

--31. (NEW) A method according to claim ~~27~~, wherein the eukaryotic cells are mammalian cells.--

--32. (NEW) A method according to claim ~~27, wherein site-specific intramolecular~~ recombination between two *six* sites in eukaryotic cells is obtained.--

--33. (NEW) A method according to claim ~~32~~, wherein two or more different specific recombination events at a time are promoted.--

--34. (NEW) A method according to claim 32, wherein intramolecular reactions are exclusively mediated.--

A' cont. 8607

--35. (NEW) A method according to claim 32, wherein the prokaryotic beta recombinase promotes the deletion of DNA sequences located between directly oriented *six* sites in mammalian cells.--

--36. (NEW) A method according to claim 32, wherein the prokaryotic beta recombinase promotes the inversion of DNA sequences located between inverted repeated *six* sites in mammalian cells.--

Sub B5

--37. (NEW) A method according to claim 32, wherein the prokaryotic beta recombinase promotes deletion of a DNA fragment laying between two directly oriented *six* sites.--

--38. (NEW) A method according to claim 37, wherein the prokaryotic beta recombinase promotes inversion of a DNA fragment laying between two inversely oriented *six* sites.--

--39. (NEW) A method according to claim 38, wherein the prokaryotic beta recombinase promotes deletion of a DNA fragment laying between direct repeated specific recognition sequences.--

--40. (NEW) A method according to claim 38, wherein the prokaryotic beta recombinase promotes inversion of a DNA fragment laying between inverted repeated specific recognition sequences.--

A' cont.

--41. (NEW) A method according to claim 35, wherein the specific recognition sequence is located as an extrachromosomal DNA substrate.--

--42. (NEW) A method according to claim 36, wherein the specific recognition sequence is located as an extrachromosomal DNA substrate.--

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--43. (NEW) A method for catalysing site-specific resolution of DNA sequences in an extrachromosomal target introduced into an eukaryotic cell, comprising catalysing the site-specific resolution with the gene coding for beta recombinase.--

--44. (NEW) A method according to claim 43, wherein the extrachromosomal target is a plasmid.--

--45. (NEW) A method according to claim 43, wherein the gene coding is introduced by transfection.--

--46. (NEW) A method according to claim 43, wherein the resolution is deletion.--

--47. (NEW) A method according to claim 43, wherein the resolution is inversion.--

Sub B7

--48. (NEW) A method according to claim 43, wherein the DNA sequences are allocated between the *six* sites.--

--49. (NEW) A method according to claim 43, wherein the *six* sites are integrated in the genome as chromatin associated structures.--